Salomon, believing that Crampton's operation rendered the exposure of the artery difficult, and the detachment of peritoneum unnecessarily extensive, made his incision parallel to the internal epigastric artery, commencing an inch within the anterior superior spinous process, and terminating within an inch of the last false rib.

Hey modified the high operation by making "an angular continuation an inch and a half in length" outwards; but his description is so indefinite as to leave us in doubt as to the value of this extension of the first incision.

Before proceeding to the operation which it fell to me to perform, I put these various methods to the test upon the cadaver, and after repeated trials came to the conclusion that the following incision gave the most direct and easy access to the artery: Commence the incision just anterior to the extremity of the second false rib (eleventh) and terminate it just above the internal ring by a sharp curve inward of one inch; this incision will be about seven inches in length, and will pass about an inch and a half within the anterior superior spinous process; the curve at the lower extremity will allow the most perfect freedom in the elevation of the peritoneum, and the complete exposure of the artery.

The second method by incision of the peritoneum was first practised by Gibson, and subsequently by Garviso, Post, and Goldsmith. It is needless to comment upon the propriety of this procedure in ordinary cases.

The following caution, given by Guthrie, in regard to raising the peritoneum, is worthy of attention: "There is a point here of great importance to recollect, and it is, that the peritoneum must be raised over without the hand being pushed back towards the posterior wall of the abdomen but as little as can be avoided; for there is some fat usually at that part, if there be any to be found in the body, and behind which you are very apt to get in performing the operation instead of going in the front; and if you do, it leads to the under edge of the psoas muscle instead of the upper, and renders the operation much more difficult."

ART. II.—*Carcinoma of Uterus: Extirpation.*

By A. F. SAWYER, M. D., San Francisco.

MRS. S., aged forty-three years, arrived here from New Orleans, in 1852. She was rather spare in habit, yet with a fair muscular development, and of a nervous, sanguine temperament. She was married in her seventeenth year, and previous to her coming to California had borne four children. There had always been long intervals between her conceptions. She has never miscarried.

The tumour was first noticed in her abdomen, in January, 1849, when she was recovering from her fourth confinement, after the birth of a healthy and mature child.

My attention was called to her case in the early part of 1855, at which time there was found a well-defined tumour, of about the size of the two fists, similar in form to the uterus, occupying the median line of the abdomen, and when she was in an upright position sinking low down into the cavity of the pelvis. The form and location of the tumour, together with the general indications of the case arrived at from an examination of the rectum and vagina, especially the existence of *ballottement*, led to the conclusion that it was connected with the uterus, probably of a fibrous nature, and developed at the expense of the uterine cavity; for, otherwise, in the enlarged condition of the uterus its symmetrical shape could not be accounted for.

Her catamenia had never been regular since her last confinement; sometimes scanty, sometimes very profuse, occurring at indefinite intervals of from three to six weeks, and accompanied with strong bearing-down pains. At other times she suffered but little inconvenience, excepting what resulted mechanically from the position and weight of the tumour.

On the 12th of October, 1856, she was delivered of a healthy child at full term. During the early period of gestation it was uncertain whether the growth of the uterus came from pregnancy, or was to be attributed to an increased activity in the development of the tumour itself. Toward the close of gestation the placental murmur and the sound of the fœtal heart made her pregnancy certain. Without these signs, as the movements of the fœtus were never distinct, and as there was a repeated recurrence of a sanguineous discharge from the vagina, the diagnosis would have been materially obscured. As pregnancy advanced, however, a double tumour could be felt within the abdomen, and plainly observed by the eye after the abdominal walls became distended over the gradually enlarging uterus—the womb occupying the left side and crowding the tumour to the upper and right side of the abdominal cavity; also, the condition of pregnancy seemed to stimulate the growth of the tumour, as at the end of gestation it had become at least one-half as large again as when first examined.

Her labour went on naturally and without accident, and she made a prompt recovery. After labour the uterus could no longer be felt, and the tumour resumed its former position in the pelvic cavity.

With this enlarged history of the case we were compelled to abandon the idea that the tumour was uterine, and were rather disposed to consider it as ovarian disease. For it was not within the limits of reasonable probability that the uterus, granting it to have been thus extensively involved in structural disease, could have sustained the nutrition of a fœtus up to its full term, even if conception were possible.

There was no indication of attachment, for the tumour could be easily

elevated, and moved to and fro in the pelvic cavity. There was no marked tenderness on pressure. It had a regular smooth outline without nodosities, and the sensation to the hand was that decidedly of a solid growth. This, with the absence of elasticity or fluctuation, seemed to indicate that it was not encysted disease.

From her last confinement up to the date of the operation, June 8, 1859, the tumour gained rapidly in size, producing almost insupportable sensations of a dragging weight, with now and then acute lancinating pains referred to the tumour, and extending down into the privates and thighs, and the patient was rapidly failing in physical vigour and strength. Her sufferings finally increased to such an extent that, notwithstanding a full explanation of the dangers attending operations of this character and magnitude, she became resolutely determined to undergo every hazard to accomplish its removal.

The patient being placed under the influence of sulphuric ether, an incision was made into the peritoneal cavity, extending from a little above the umbilicus to the pubis, in the direction of the linea alba. The true nature of the disease was then apparent, it being a large solid growth, without adhesions, embedded in the parietes, and resembling an enormous hypertrophy of the uterus. The ovaries rested on either margin of the tumour, the left natural in appearance, and the right considerably atrophied. A large curved needle, armed with a strong ligature, was then passed through the textures below the cervix uteri, the ligatures made secure, and the tumour amputated above the ligatures. The free ends of the ligature were then brought out of the abdominal wound, which was immediately closed by sutures and adhesive plaster.

Description of the Tumour.—The tumour had an exact resemblance to the uterus in form, measuring 9½ inches in its long and 7½ inches in its short diameter, and about 5 inches through from side to side. Its surface was perfectly smooth, and covered with peritoneal membrane; a large number of dilated bloodvessels ramified over the exterior of the tumour, becoming finally concentrated into the vessels of the broad ligaments. The mass removed weighed 7¼ pounds.

A section of the tumour showed that it had its origin at the fundus of the uterus. At least the greatest bulk of the tumour was found at the fundus, thence extending downward over the anterior face and right margin of this organ. The posterior walls and left border were but little encroached upon by the disease; the muscular coat being of the natural thickness.

From without inwards the following textures were noted. 1st. Peritoneum. 2d. The uterine parietes, about two lines in thickness. Then a cyst wall of cartilaginous structure, crowded with well-defined plates of amorphous calcareous deposit, inclosing the softer parts of the tumour, which last had a partially lobulated appearance, the lobules possessing different characteristics. Some being of a grayish colour, with but little

consistency, resembling cerebriform fungus; others much firmer in structure, of reddish appearance, with bands of white cartilaginous fibre traversing them in different directions. Quite large calcareous particles were distributed through the denser portion of the tumour. Indeed, a section of any portion of the tumour gave a gritty feel to the knife. Lastly, the true muscular texture of the uterus, about three lines in thickness, with the mucous membrane of the uterine cavity, which presented small patches of ecchymosis on its inner surface.

From this description it will be seen that the tumour rested within the muscular parietes of the uterus. Splitting then, as it were, in its development, the outer muscular layers forming its external covering, and the inner layers preventing the encroachment of the tumour upon the uterine cavity. The os and canal of the cervix were pervious, as also the left Fallopian tube. The right was pervious only about three lines from the uterine orifice.

The patient progressed well up to the fourth day after the operation. There was but little distension of the abdomen, and not marked tenderness; not much thirst; the pulse varying from 80 to 90. The bladder was kept empty by the catheter. On the third day a trifling discharge of healthy pus was noticed from the vagina. Small doses of calomel and opium were prescribed as a prophylactic, and to quiet the nervous system.

On the evening of the fourth day strong rigors supervened, and the patient's condition changed rapidly for the worse, the stomach rejecting everything presented to it, whether of a liquid or solid form. The lower portion of the abdomen became swollen and tender, which soon extended itself over the entire peritoneal cavity. The pulse rose to 140, and the countenance of the patient assumed an anxious and distressed look. The healthy suppuration from the vagina gave way to an excessively fetid and sanious discharge. These symptoms became steadily more aggravated until her death, which occurred on the sixth day after the operation.

In the way of treatment external irritants, as turpentine and emollient fomentations, were applied over the abdomen, without effect. Internal remedies were rejected as soon as presented. Inhalations of sulphuric ether afforded some relief to the distress of the patient. Her most painful sensation was a tenesmus, and uncontrollable bearing down of the rectum. A long flexible catheter was introduced into the gut without benefit. Mucilaginous injections, combined with morphia and lac assafœtida, gave some palliation to these symptoms.

Post-mortem examination six hours after death.—The wound of the abdomen had united in its whole extent, excepting at the point which had afforded escape for the ligature. There was considerable but not extraordinary inflation of the peritoneal cavity. The whole intestinal track, including the stomach, had a congested and inflamed appearance. Several small particles of ecchymosis were observed near the pyloric orifice of the stomach. The mucous coat of the rectum was deeply engorged and somewhat softened. About ℥x of a dark sanguineous fluid, mixed with clots,

occupied the dependent portion of the peritoneal cavity. Bladder contracted, without urine. Vagina softened and sloughy. On examining the stump of the wound the ligatures were found partially loosened from their attachments by ulceration, and its free end covered by a small, half decomposed clot, which, when removed, showed the patent mouths of bloodvessels.

There is little doubt that the remote cause of death was from secondary hemorrhage, which probably set in on the fourth day after the operation. The compression on the vessels becoming relaxed by the partial separation of the ligatures, before the plastic powers of nature had closed the arteries firmly enough to withstand the ordinary force of the circulation. The proximate cause of death was connected with the decomposition of the clot within the cavity of the peritoneum, and which led to the train of symptoms that afterward supervened, and could not be controlled.

This case presents several points of marked interest. It will be observed that our original diagnosis, and as afterward proved to be the correct interpretation, was that the tumour involved structurally the uterus itself. It is to be recollected that the patient was under observation for nearly a year before her last pregnancy occurred; and during this time, when we had every satisfactory evidence that the tumour was not attributable to pregnancy, the existence of ballottement seemed to establish our opinion conclusively. The sensation of ballottement indicates a weighty uterus, without determining the cause which has led to its increased weight. This must be settled by the collateral history of the case; and when the circumstances are such as to preclude the probability of pregnancy, it becomes a very important diagnostic sign for predicating the existence of uterine tumour. If the cavity of the uterus admits of examination by the uterine sound, of course the character of the tumour is more plainly fixed, as in eliminating the presence of polypoid growths, or of fluid within the uterine cavity, which may lead to such a distension of that organ as to give fully the sensation of ballottement. A case of the latter description has fallen under our observation, and the simple introduction of a fine pointed gum-elastic bougie sufficed for the cure of the case, by affording evacuation to a considerable quantity of a fetid serous fluid.

In this instance, although the uterine canal was pervious to the sound, it was wrongly supposed that the cavity of the uterus had become dilated by the gradual increase of the tumour, as may occur from unnatural as well as from natural causes.

Not the least remarkable feature in her case was that she had been able to carry her fœtus to the full term, when such a large and unyielding morbid mass had been located within the muscular parietes of the womb. In short, we were unwilling to admit the presumption of pregnancy, until all doubt was removed by the sound of the fœtal heart. When the abdomen became fully distended, as gestation advanced, the tumour appeared to the eye, and, indeed, as could be easily felt by the hand, entirely distinct from the gravid womb, so that we were forced to the conclusion that the tumour

was disconnected with the body of the uterus, and that the ballottement at first noted arose from the close anatomical relations of the tumour to the uterus, probably resting in juxtaposition with it, so as to readily convey by transmission the sense of ballottement to the touch.

There are abundant cases recorded, where it is demonstrated that the form and anatomical location of the tumour do not always conclusively indicate either the nature of the disease, or in what organs it may have specially originated. Ovarian tumours have not unfrequently simulated uterine tumours, and *vice versâ*. We have known cancerous degeneration of the kidney mistaken for ovarian disease, and yet scarcely a doubt could exist that it was not ovarian prior to the operation. A successful case occurred here in the hands of an old and experienced surgeon, who made abdominal section for ovarian disease. The tumour was found, however, to be a large fibrous tumour of the uterus, weighing several pounds, which was separated from its pedicle. The patient made a complete recovery from the operation.

In the present instance it is worth remarking that the functional power of the uterus was curiously sustained, where the patient was able to bear a mature child, notwithstanding the existence of an immense foreign growth, imbedded, as it were, in the muscular parietes of the womb. In this connection we would call attention to the healthy appearance of the left ovary, as contrasted with the shrunken and atrophied condition of the right, associated with the complete obliteration of the corresponding Fallopian tube.

We append the following list of cases of abdominal section, with results —a total of eleven cases, which probably includes all the operations of this character made in California :—

Seven cases of ovarian disease, of which six terminated fatally. In three of the seven cases the wound was closed without attempt at removal of the tumour, on account of unusual complications. In one case the contents of the cyst were purulent. In the seventh case (Dr. Nelson's) the patient made a perfect recovery, although the case appeared unfavourable, from extensive adhesions. One case of Cesarean operation (Dr. Cooper) successful. One case of fibrous tumour of uterus (Dr. Nelson) successful. One case of carcinoma of uterus (the case here reported) fatal. One case of fungus hæmatodes of kidney, fatal.

These cases have generally been in the hands of fully competent and experienced surgeons; and the fatality, as far as ovarian disease is concerned (six out of seven cases), compares very unfavourably with the published statistical accounts of the success of this operation. A great deal has been said and written about the proper selection of cases for operative procedure. Experience, however, shows that the most skilful surgeons are likely to be in error in their selection of cases for operation, which beforehand, in a diagnostic point of view, may have afforded the most promising expectations of radical success. Besides, we have to consider, whatever

may have been the previous history of this class of cases, whether they have been under the treatment of empirics or the enlightened medical practitioner, when it comes to the question of an operation. Men of acknowledged ability and reputation in surgery are solicited to take charge of the patient; and do they always furnish a report of their unsuccessful cases as well as of their successful? For our own part we are satisfied that the statistics of ovariotomy are entirely unreliable, because but a feeble fraction of the fatal cases are given to the public; whilst there is not a single successful operation that does not find its way, either directly or indirectly, into some of the medical periodicals of the day.

ART. III.—*Two Cases of Reducible Inguinal Hernia operated on for the Radical Cure.* By R. A. KINLOCH, M. D., Surgeon of the Roper Hospital, Charleston, S. C. (With five wood-cuts.)

CASE I. Hamber, a native of Germany, æt. 32, basket-maker, was admitted into the Roper Hospital January 1, 1859, labouring under oblique inguinal hernia on the left side, occasioned by heavy lifting two months previously. Has a weakly appearance, with sallow complexion, and has long suffered from dyspepsia; but entered the hospital to be cured, if possible, of hernia. It was thought advisable first to improve his general health, and with this view he was treated with occasional mercurial laxatives, alkalies, and bitter tonics, together with generous diet and a liberal allowance of porter.

January 22. Patient's condition so much improved that he was considered ready for operation. Being recumbent, and fully chloroformed, the operation was practised as follows: "A portion of the scrotal integument was invaginated and pushed well up into the inguinal canal with the index finger of the left hand. A strong and slightly curved needle, fixed to a handle and armed with a double suture of annealed iron wire (No. 32) of proper length, was passed up the invaginated integument, along the finger as a guide, to the internal ring, and made to perforate all the abdominal structures in front of the inguinal canal. The wire was then liberated from the eye of the needle by an assistant, and the needle withdrawn. A second, third, fourth, fifth, and sixth puncture was then successively made in the same way as the first, and through each perforation was carried a double wire suture. These perforations were so placed that there were three to the left and three to the right, so that the upper extremities of the sutures passed through the antero-lateral walls of the inguinal canal; each suture was separated from its neighbour of the same side by the distance of a third of an inch, and from its neighbour of the opposite side by the distance of